

Amendment Dated May 12, 2006
Serial No. 10/025,925

REMARKS

Reconsideration of the rejections set forth in the Office Action is respectfully requested. By this Amendment, the claims 22, 29, 35, and 44 have been amended. Currently, claims 21-46 are pending in this application.

Rejection under 35 USC 102

Claims 21-46 were rejected under 35 USC 102 as anticipated by Becker (Visualizing Network Data, March 1995)¹. This rejection is respectfully traversed in view of the amendments to the claims and the following arguments.

The present invention relates to a method and system for representing and maintaining network layouts. As networks get complicated, the amount of information that may be displayed on a management display system increases, which makes it more difficult to isolate any given aspect of the network architecture. To differentiate the different aspects of the network, network management systems generally used different views to sequentially display different aspects of the network. Thus, in previous systems, if a network manager wanted to understand how different aspects of the network worked together, or which network elements were managing which other network elements, the network manager would be required to sequentially view screens showing the different aspects of the network. (See e.g., Specification at page 3, lines 22-27).

Applicants discovered that it was possible to effectively present network information by causing a portion of the information representing the telecommunication network to be displayed as a background image and another portion of the information representing the telecommunication network to be displayed as a foreground image. For example, the physical network topology may be presented as a grayed out background image while a management view of the network may be displayed over the background image using more saturated colors. Optionally, additional information may also be displayed, such as a geographical map of the area

¹ Applicant's copy of this reference contained figures that were very dark and largely illegible. Applicants have located copies of figures on the Internet that are represented to be taken from the reference cited by the Examiner. Applicants have printed out full-sized color images and attach them hereto as Exhibit A. If these images are not legible, applicant's representative would be happy to mail the images or e-mail the images to the Examiner. As of the filing date of this amendment, the images were available at the following Internet address:
http://www.scils.rutgers.edu/~aspoerri/Teaching/InfoVisResources/images/visiontothink/space2/visualizing_becker/

Amendment Dated May 12, 2006
Serial No. 10/025,925

so that the network manager can see where, geographically, the network elements are located. By allowing the network operator to see a management view of the network in this manner, it is possible to more easily understand how the network elements are related from a management perspective. Since management of the network elements may be independent of the physical topology, presenting a management view of the network over the physical topology is particularly advantageous.

To help explain how a management view may appear when presented over a representation of the physical network topology, applicants have attached hereto as Exhibit B two images that are representative of applicant's user interface. As shown in the first image (Image 1), a view of the network may show the physical topology of the network for a particular zone of a larger network. The physical "topology" as that term is used in this application, refers to the nodes and the links that interconnect them as discussed in greater detail below. In the example shown in Image 1 of Exhibit B, the resource browser for Zone 1 shows various network elements in that area that the user has selected by checking off boxes in the lower section. This image is similar to that shown in Fig. 2 of the application as originally filed.

When the user would like to see information other than interconnection information, such as a management view of the network, the user may cause the management view to be shown on the display and cause the physical network topology to be grayed out. Exhibit B shows an example of what this might look like. As shown in this image, the management information may be displayed in one color while grayed out the remaining layers. The layers may also be removed completely if desired by de-selecting the layers in the lower part of the window.

Note, in Image 2, that network element MGC001 manages a network element that is not part of Zone 1. Accordingly, the management view in Image 2 shows a management connection line going from the network element MGC001 to an off page connector to Moonies Bay.

The art of record does not teach or suggest a system in which a management view may be presented over a grayed out view of the physical network topology. Applicants have amended independent claim 21 to recite a method that includes the steps of:

- presenting a background image representation of at least a first of the aspects of the telecommunication network, said first aspect being a physical network topology of the telecommunication network; and

Amendment Dated May 12, 2006
Serial No. 10/025,925

- presenting a foreground image representation of at least a second of the aspects of the telecommunication network over the background image representation, said second of the aspects being user-selectable and comprising at least a management view of the telecommunication network.

Support for this amendment may be found in the specification as originally filed, for example at page 2, line 12, page 12, lines 2-14, and in Fig. 2. Similar amendments have been made to the other claims as shown above, although the precise wording may have been changed a bit given the different structure of the other independent claims.

Becker does not teach or suggest a user interface that enables the network manager to obtain views similar to those possible using applicant's invention or as recited in the amended claims. Specifically, Becker does not teach a system in which a management view may be displayed over a physical network topology. Accordingly, applicants respectfully request that the rejection over Becker be withdrawn.

Additionally, applicants respectfully submit that Becker does not teach the display of a physical network topology as that term is defined in this application, and as recited in the amended independent claims.

Dependent claim 29 previously recited that the background image representation was a physical network topology. With respect to that claim, the Examiner took the position that Becker teaches this aspect, citing page 20, paragraph 4, and Fig. 7. Specifically, it appears that the Examiner has taken the position that the background image of the United States and the placement of the nodes on the map of the United States constitutes the display of a physical network topology. Applicants respectfully submit that the term physical network topology is used in a different way in this application.

In the first paragraph of the background of this application, applicants state that "A global network generally consists of nodes and links, which describe the network topology..." (Specification at page 1, lines 12-13). Thus, the word topology is used in this application to describe both the nodes and the links that interconnect those nodes. Becker teaches the placement of nodes on a map, but does not show the links interconnecting those nodes. Without the links interconnecting the nodes, it is not possible to determine which of the nodes are interconnected with which of the other nodes. Accordingly, Becker teaches the use of a map, not

Amendment Dated May 12, 2006
Serial No. 10/025,925

the use of a physical network topology as that term is defined in this application. For this additional reason, applicants respectfully submit that Becker fails to anticipate claim 21 as amended, and respectfully request that the rejection be withdrawn. Applicants have amended independent claims 35 and 44 in a manner similar to claim 21, and accordingly these independent claims are believed patentable as well. The dependent claims are patentable for substantially the same reasons.

Rejections under 35 USC 103

Claim 43 was rejected under 35 USC 103 as unpatentable over Becker in view of Bishop (U.S. Patent No. 5,729,250). Claim 43 depends on independent claim 35 and is therefore patentable for the reasons set forth above. Similarly, claim 45 was rejected as unpatentable over Becker and Cox (November 1996). Claim 45 depends on claim 44 and is therefore patentable for the reasons set forth above with respect to that independent claim.

Information Disclosure Statement

Applicants are submitting herewith an information disclosure statement to make Ahearn et al (U.S. Patent No. 5,926,463) of record in the case. To facilitate prosecution, applicants will provide a few comments about the Ahearn reference.

Ahearn teaches a method and apparatus for viewing a configuration of a computer network by polling a plurality of switches and routers present in the network to obtain copies of information stored in databases on the switches and routers. (See Abstract). The data may be presented using different subsets of a topology map that may be shown in contrast to each other using color and shade (See generally Col. 21, line 62 to Col. 23, line 65 and more particularly Col. 23, lines 28-43). After reviewing Ahearn and the manner in which it creates its display, it does not appear that Ahearn teaches a system that is configured to present a management view of the telecommunications network over a background image representation of the physical network topology. Accordingly, applicants respectfully submit that a rejection of the claims as amended would not be warranted under 35 USC 102 or 35 USC 103 over Ahearn.

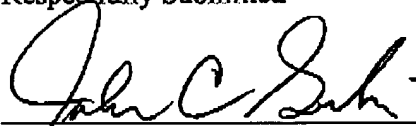
Amendment Dated May 12, 2006
Serial No. 10/025,925

Conclusion

In view of foregoing amendments and remarks, it is respectfully submitted that the application is now in condition for allowance and an action to this effect is respectfully requested. If there are any questions or concerns regarding the amendments or these remarks, the Examiner is requested to telephone the undersigned at the telephone number listed below.

If any fees are due in connection with this filing, the Commissioner is hereby authorized to charge payment of the fees associated with this communication or credit any overpayment to Deposit Account No. 502246 (Ref: NN-14538).

Respectfully Submitted



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